

PB-218 645

EXHAUST EMISSIONS FROM A PASSENGER CAR
EQUIPPED WITH THE "WILFORD SMOG SUPPRES-
SOR"

Leonard D. Verrelli, et al

National Air Pollution Control Administration
Ann Arbor, Michigan

October 1970

DISTRIBUTED BY:

NTIS

National Technical Information Service
U. S. DEPARTMENT OF COMMERCE
5285 Port Royal Road, Springfield Va. 22151

BIBLIOGRAPHIC DATA SHEET		1. Report No. APTD-1433	2.	PB 218 645	
4. Title and Subtitle Exhaust Emissions from a Passenger Car Equipped with the "Wilford Smog Suppressor"				5. Report Date October 1970	
7. Author(s) Leonard D. Verrelli				6.	
9. Performing Organization Name and Address Department of Health, Education, and Welfare National Air Pollution Control Administration Division of Motor Vehicle Research and Development Ann Arbor, Michigan				8. Performing Organization Rept. No.	
12. Sponsoring Organization Name and Address Same				10. Project/Task/Work Unit No.	
				11. Contract/Grant No.	
				13. Type of Report & Period Covered Inhouse	
15. Supplementary Notes				14.	
16. Abstracts The design characteristics of the Wilford Smog Suppressor provided an opportunity to evaluate the effects of applying back pressure to the exhaust system and its relationship to reduced emissions. The testing was required as part of an evaluation of retro-fit devices to aid in reducing emissions in used cars. The device was mounted on a 1963 Ford Galaxie test bed, with a 289 cu. in. engine and automatic transmission. The device was tested under the 1970 Federal test procedure as stated in the Federal Register, Vol. 33, No. 108, Part II. Because of the increase of unburned hydrocarbons during the cold cycle and the lack of any meaningful reduction in both CO and NO, it appears that the Wilford Smog Suppressor has no beneficial effect on emissions.					
17. Key Words and Document Analysis. 17a. Descriptors Air pollution Automobiles Exhaust emissions Tests Air pollution control equipment Smog Hydrocarbons Carbon monoxide Carbon dioxide					
17b. Identifiers/Open-Ended Terms 1970 Federal Test Procedure (FTP) Wilford Smog Suppressor Retrofit devices					
Reproduced by NATIONAL TECHNICAL INFORMATION SERVICE U S Department of Commerce Springfield VA 22151					
17c. COSATI Field/Group 138					
18. Availability Statement Unlimited				19. Security Class (This Report) UNCLASSIFIED	
				20. Security Class (This Page) UNCLASSIFIED	
				21. No. of Pages 3	
				22. Price 3.00	

Exhaust Emissions from a Passenger Car Equipped with the
"Wilford Smog Suppressor"

October 1970

Leonard D. Verrelli
Division of Motor Vehicle Research and Development
National Air Pollution Control Administration
Department of Health, Education and Welfare

Device Tested

The design characteristics of the Wilford Smog Suppressor provided an opportunity to evaluate the effects of applying back pressure to the exhaust system and its relationship to reduced emissions. The testing was required as part of an evaluation of retro-fit devices to aid in reducing emissions in used vehicles.

The Wilford Smog Suppressor consists of a spring (calibrated) controlled flapper valve that varies the back pressure depending on engine rpm. It is clamped to the end of the exhaust pipe with the valve opening downward.

The device was mounted on a 1963 Ford Galaxie test bed, with a 289 cubic inch engine and automatic transmission. There is extensive emissions background data available on this vehicle as a result of previous testing that would denote any improvements made by the device.

Test Procedure

The device was tested under the 1970 Federal test procedure as stated in the Federal Register, Volume 33, Number 108, Part II, dated June 4, 1968, Subpart H, para. 85.7 b.

Emission Results

The data shown in Table I compare tests run both with and without the Wilford Smog Suppressor.

Because of the increase of unburned hydrocarbons during the cold cycle and the lack of any meaningful reduction in both CO and NO it appears that the Wilford Smog Suppressor has no beneficial effect on emissions.

Conclusions

The "Wilford Smog Suppressor" does not improve exhaust emission rates when evaluated using the 1970 Federal test procedure.